

Application No. 10/083,996
Amendment dated February 24, 2005
In reply to Final Office Action of November 26, 2004

Docket No. 1232-4825

REMARKS

Applicant respectfully requests reconsideration of this application in view of the foregoing amendments and following remarks.

Status of the Claims

Claims 1, 3-7, 9, 11-13, 18-22 and 24-30 are pending in this application. Claims 1 and 18 are independent. All of the pending claims stand rejected. By this Amendment, independent claims 1 and 18 are amended. New claims 37 and 38 are added. No new matter has been added by this Amendment.

Rejection under 35 U.S.C. §102

In paragraph two (2) of the Final Office Action, claims 1, 3-5, 7, 9 and 13 have been repeatedly rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 4,410,804 to Stauffer ("Stauffer").

In response to the Applicant's argument filed on September 24, 2004, the Examiner indicates that "the top and bottom quadrants each converge into a zero width towards the center of the pixel/quadrant, so therefore, a center portion of the third light-receiving region contains a zero width, and hence, is narrower than the positive width of center portions of the first and second light-receiving regions. In addition, the bottom tip of the top quadrant and the top tip of the bottom quadrant can also be considered within a "central portion" of the third light-receiving region, and the two tips contain a zero width."

Applicant notes that each of independent claim 1 recites "wherein each light-receiving portions includes first, second and third light-receiving regions each outputting a signal." In

Application No. 10/083,996
Amendment dated February 24, 2005
In reply to Final Office Action of November 26, 2004

Docket No. 1212-4325

other words, the third light-receiving region, as well as the first and second light-receiving regions, has a single signal output.

In contrast, followed by the Examiner's interpretation of Stauffer, the top and bottom quadrants are separated from each other and must have corresponding two signal outputs, i.e., does not have a single signal output as recited by claim 1.

Accordingly, claim 1 is believed neither anticipated by nor rendered obvious in view of Stauffer for at least the reasons discussed above.

Nonetheless, independent claim 1 is amended for further clarification as shown above. In particular, amended claim 1 recites that "the third light-receiving region having first and second end portions and continuously extending from the first end portion to the second end portion along a longitudinal direction of the third light-receiving region, each of the first and second light-receiving regions having substantially symmetrical shape with respect to a line parallel to the longitudinal direction, the first and second light-receiving regions being substantially symmetry with each other."

Stuffer discloses in Fig. 3 light-receiving portions each having left quadrant, right quadrant, top quadrant and bottom quadrant. Applicant notes that the Office Action indicates that a combination of the top and bottom quadrants corresponds to the third light-receiving region.

In contrast and as described above, amended claim 1 recites that the third light-receiving region has first and second end portions and continuously extends from the first end portion to the second end portion along a longitudinal direction of the third light-receiving region.

Application No. 10/083,996
Amendment dated February 24, 2005
In reply to Final Office Action of November 26, 2004

Docket No. 1232-4825

Accordingly, the split top and bottom quadrants of Stauffer are different from the third light-receiving region of the present invention.

The Office Action indicates that the left and right quadrants of Stauffer have substantially symmetrical shape. Applicant notes, however, that each of the left and right quadrants of Stauffer does not have a symmetrical shape with respect to a vertical direction (longitudinal direction) as required by amended claim 1.

Accordingly, claim 1 as amended is further distinguishable over Stauffer for at least the reasons discussed above.

Reconsideration and withdrawal of the rejection of claim 1 under 35 U.S.C. §102(b) is respectfully requested.

Rejection under 35 U.S.C. §103

In paragraph four (4) of the Office Action, claims 6, 18-22, 24-27 and 30 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Stauffer in view of U.S. Patent No. 6,195,509 to Nakahara ("Nakahara").

Independent claim 18 has been amended as shown above reciting similar features to amended claim 1, i.e., "the third light-receiving region having first and second end portions and continuously extending from the first end portion to the second end portion along a longitudinal direction of the third light-receiving region, each of the first and second light-receiving regions having substantially symmetrical shape with respect to a line parallel to the longitudinal direction, the first and second light-receiving regions being substantially symmetry with each other."

As discussed above, Stauffer fails to show or suggest this aspect of invention featured in amended claim 18. Applicant further believes that Nakahara also fails to show or suggest this

Application No. 10/083,996
Amendment dated February 24, 2005
In reply to Final Office Action of November 26, 2004

Docket No. 1232-4825

aspect of the invention as discussed herein.

Amended claim 18 is accordingly believed to be allowable over Stauffer and Nakahara, either taken alone or in combination, for at least the reasons discussed above.

Reconsideration and withdrawal of the rejection of claim 18 under 35 U.S.C. §103(a) is respectfully requested.

Applicant has not individually addressed the rejections of the dependent claims because Applicant submits that the independent claims from which they respectively depend are in condition for allowance as set forth above. Applicant however reserves the right to address such rejections of the dependent claims should such be necessary.

New claims 37 and 38 are added to claim the invention in an alternative manner. In particular, each of new claims 37 and 38 recites that the third light-receiving region is further defined to include "a position where the principal ray of a photographing beam is incident." Support for this aspect of the invention may be found, for example, line 14 of page 18 through line 4 of page 19 of the original specification.

Applicant believes that the Stauffer's divided top and bottom quadrants does not include a position where the principal ray of a photographing beam is incident as specifically recited in added claims 37 and 38 as described above. Applicant further believes that Nakahara fails to show or suggest this aspect of the invention. New claims 37 and 38 are accordingly believed to be allowable over the cited references (i.e., Stauffer and Nakahara) for at least the reasons discussed herein.

Applicant believes that the application including the new claims is in condition for allowance and such action is respectfully requested.

Application No. 10/083,996
Amendment dated February 24, 2005
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Docket No. 1232-4825

AUTHORIZATION

No petitions or additional fees are believed due for this amendment and/or any accompanying submissions. However, to the extent that any additional fees and/or petition is required, including a petition for extension of time, Applicant hereby petitions the Commissioner to grant such petition, and hereby authorizes the Commissioner to charge any additional fees, including any fees which may be required for such petition, or credit any overpayment to Deposit Account No. 13-4500 (Order No. 1232-4825). A DUPLICATE COPY OF THIS SHEET IS ENCLOSED. An early and favorable examination on the merits is respectfully requested.

Respectfully submitted,
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Dated: February 24, 2005

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